

MAY/FY06

**INDIANA ARMY
AMMUNITION PLANT
Indiana**

**Army Defense Environmental
Restoration Program
Installation Action Plan**

Final 19 September 2006

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The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

In an effort to coordinate planning information between the restoration manager, US Army Environmental Center (USAEC), Indiana Army Ammunition Plant, NGB/IMA/MSD, Base Realignment and Closure (BRAC) Division, executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following agencies contributed to the formulation and completion of this Installation Action Plan during a planning workshop held on 9-10 May 2006:

Company/Installation/Branch

Engineering and Environment, Inc. (EEI), for US Army Environmental Center

Indiana Army Ammunition Plant (INAAP)

Indiana Department of Environmental Management (IDEM)

Rock Island BRAC Office

URS

US Army Corps of Engineers (USACE) – Louisville

US Army Environmental Center

Acronyms & Abbreviations

AEDB-R	Army Environmental Database - Restoration (formerly DSERTS)
BAP	benzo-a pyrene
bgs	below ground surface
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CMS	Corrective Measures Study
CS	Corrective Study
cys	cubic yards per second
DD	Decision Document
D/I	Disassembling and visual inspection
DNT	Dinitrotoluene
DOD	Department of Defense
EEI	Engineering & Environment, Inc.
ER,A	Environmental Restoration, Army (formerly called DERA)
ESS	Explosive Safety Submission
FFA	Federal Facility Agreement
FR1	Foundation Restriction
FS	Feasibility Study
FY	Fiscal Year
HOP	Hoosier Ordnance Plant
IAP	Installation Action Plan
IDEM	Indiana Department of Environmental Management
IDNR	Indiana Department of Natural Resources
INAAP	Indiana Army Ammunition Plant
IOWP	Indiana Ordnance Works Plant
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LTM	Long-Term Management
MACOM	Major Command
MC	Munitions Constituents
MMRP	Military Munition Response Program
NE	Not Evaluated
NFA	No Further Action
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
OB/OD	Open Burning/Open Detonation
O&M	Operation and Maintenance
OMA	Operation and Maintenance, Army
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyls
P&E	Propellant and Explosive
POL	Petroleum, Oil, Lubricants
PY	Prior Year
RA	Remedial Action

Acronyms & Abbreviations

RA(C)	Remedial Action – Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RAP	Remedial Action Plan
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal
RFA	RCRA Facility Agreement
RI	Remedial Investigation
RIP	Remedy in Place
RFI	RCRA Facility Investigation
ROD	Record of Decision
RRDA	River Ridge Development Authority
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TD	Thermal Decomposition
TPH	Total Petroleum Hydrocarbons
URS	Contracting Firm
USACE	US Army Corps of Engineers
USACHPPM	US Army Center for Health Promotion and Preventive Medicine
USAEC	US Army Environmental Center
USATHAMA	US Army Toxic and Hazardous Material Agency (replaced by USAEC)
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds

Acronyms & Abbreviations

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA) Acronym Conversions

CERCLA

Preliminary Assessment (PA) =
Site Inspection (SI) =
Remedial Investigation/
Feasibility Study (RI/FS) =
Remedial Design (RD) =
Remedial Action (Construction)
(Construction) (RA(C)) =
Remedial Action (Operation)
(RA(O)) =
Long-Term Management (LTM) =
Interim Remedial Action (IRA) =

RCRA

RCRA Facility Assessment (RFA)
Confirmation Sampling (CS)
RCRA Facility Investigation/Corrective Measures
Study (RFI/CMS)
Design (DES)
Corrective Measures Implementation
(CMI(C))
Corrective Measures Implementation (Operation)
(CMI(O))
Long-Term Management (LTM)
Interim Measure (IM)

CERCLA and RCRA Underground Storage Tank (UST) Acronym Conversions

CERCLA

Preliminary Assessment (PA) =
Remedial Investigation (RI) =
Feasibility Study (FS) =
Remedial Design (RD) =
Remedial Action (Construction)
(RA(C)) =
Remedial Action (Operation)
(RA(O)) =
Long-Term Management (LTM) =
Interim Remedial Action (IRA) =

RCRA UST

Initial Site Characterization (ISC)
Investigation (INV)
Corrective Action Plan (CAP)
Design (DES)
Implementation (Construction) (IMP(C))
Implementation (Operations) (IMP(O))
Long-Term Management (LTM)
Interim Remedial Action (IRA)

Installation Information

Installation Locale: Indiana Army Ammunition Plant (INAAP) is located on 9,790 acres of land in Clark County, Indiana. Indiana Army Ammunition Plant is 1.5 miles north of the greater Louisville Metropolitan Area. Potential for development at INAAP is very positive. The Ohio River borders INAAP on the Eastern side.

Installation Mission: INAAP is an excess properties installation assigned to BRAC with the mission to cleanup and dispose of the property to the state of Indiana for recreational purpose and local reuse authority for industrial/commercial development.

Lead Organization:

Base Realignment and Closure Division (BRACD)

Lead Executing Agency:

US Army Corps of Engineers, Lakes and Rivers Division, Louisville District

Regulatory Participation

Federal: US Environmental Protection Agency, Region 5

State: Indiana Department of Environmental Management

National Priorities List (NPL) Status: Non NPL

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status:

A RAB has not been established at INAAP due to lack of interest.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Propellant, Explosives, Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Metals

Affected Media of Concern: Groundwater, Soil, Sediment, Surface Water

Estimated date for Remedy-In-Place (RIP)/ Response Complete (RC): 2006/2008

Funding to Date: (up to FY05): \$26,000.00K

Current year funding (FY06): \$ 744.12K

Cost-to-Complete (FY07+): \$ 1,276.00K

MMRP

Primary Contaminants of Concern: Unexploded Ordnance (UXO)

Affected Media of Concern: Soil

Estimated date for RIP/RC: 2006

Funding to Date: (up to FY05): \$491K

Current year funding (FY06): \$ 0

Cost-to-Complete (2007+): \$ 0

BRAC: The two BRAC sites are response complete: INAAP-66 and INAAP-67.

Cleanup Program Summary

Installation Historic Activity

INAAP formerly encompassed approximately 9,790 acres in south-central Clark County, Indiana. Its southern boundary is approximately 6 miles north of Jeffersonville, Indiana and 10 miles from Louisville, Kentucky, across the Ohio River. INAAP is owned by the Rock Island Arsenal and has been declared excess by the Army. The facility is currently operating under Master Leases with the River Ridge Development Authority (RRDA) and the Indiana Department of Natural Resources (IDNR). These Master Leases are administered by the Louisville District, Corps of Engineers. The entire facility will eventually be transferred to the IDNR and the RRDA per Public Law 105-85, Section 2838, Military Construction Authorization Act of Fiscal Year 1998 and Section 2843, Military Construction Authorization Act for Fiscal Year 1999.

INAAP was built during WW II to manufacture and assemble propellants and explosives. INAAP's mission at that time included:

- Operation and maintenance of active facilities in support of current operations, specifically the manufacture of igniters and bag propellant charges, and maintenance and/or layaway of standby facilities in a condition that permits the resumption of production
- Receipt, surveillance, maintenance, renovation, storage, physical inventory, demilitarization, and salvage functions
- Procurement, receipt, storage, and issue of necessary supplies, equipment, components, and essential materials
- Industrial readiness planning and emergency mobilization planning
- Product assurance functions in support of procurement and production
- Production engineering and process engineering

The Plant was originally constructed as three separate facilities: the Indiana Ordnance Works Plant 1 (IOW), the Hoosier Ordnance Plant (HOP), and the Indiana Ordnance Works Plant 2 (IOWP). The three facilities were consolidated into the Indiana Arsenal in 1945. The Indiana Arsenal was redesignated as the Indiana Ordnance Plant in 1961; in August 1963, it was re-designated again as the Indiana Army Ammunition Plant (ASI 1994).

Current Activity

IRP: INAAP has transferred 3147 acres to the local reuse authority and 3479 acres to the state of Indiana. Six sites were added to the No Further Action List (NFA) (approved by IDEM).

72 (of 90) sites are confirmed as NFA.

MMRP: A site investigation was conducted in FY05. Remedial action completed in FY06.

Total Installation Acres: 4,187

Parcel Name: Parcel D3

Parcel Size: 132 acres

Associated Sites: Parcel D3 Area, INAAP-29

Transfer Date or Expected Transfer Date: 200609

Current Land Use: Industrial

Future Land Use: Industrial

Leases/Permits/Licenses: RRDA/RCRA post closure permit/None

Transfer Strategy: Transferred in FY06

Recipient: RRDA

Other Issues Affecting Transfer: None known to date

Parcel Name: Parcel F

Parcel Size: 1,344 acres

Associated Sites: TD, FR1, D/I, INAAP-06, 17, 18, 25, 26, 27, 28, 30, 34, 46, 47, 50, 56, 59, 60, 69-5, 77, 79, 89

Transfer Date or Expected Transfer Date: 2008

Current Land Use: Native woodland

Future Land Use: Recreational

Leases/Permits/Licenses: Currently leased to IDNR/RCRA post closure permit/None

Transfer Strategy: To be transferred by 2008

Recipient: State of Indiana

Other Issues Affecting Transfer: None known to date

Parcel Name: Parcel G1/G2

Parcel Size: 301 acres/344 acres

Associated Sites: FR1, D/I

G1: INAAP-13, 61, 84, 44, 58, 87, 37, 83, 84, 85, 80, 40, 43, 78, 45

G2: INAAP-52, 82, 69-1, 75

Transfer Date or Expected Transfer Date: 200609

Current Land Use: Industrial

Future Land Use: Industrial

Leases/Permits/Licenses: RRDA/RCRA post closure permit/none

Transfer Strategy: To be transferred in FY06

Recipient: RRDA

Other Issues Affecting Transfer: None known to date

Transfer Summary

Parcel Name: Parcel H

Parcel Size: 1,975 acres

Associated Sites: INAAP-01, 03, 04, 05, 10, 16, 20, 21, 22, 54, 63, 65, 36, 83, 07, 19, 09, 32, 35, 81, 72, 53, 70, 23, , 62, 08, 48-1, 48-2

Transfer Date or Expected Transfer Date: 2014+

Current Land Use: Industrial

Future Land Use: Industrial

Leases/Permits/Licenses: RRDA/RCRA post closure permit/None

Transfer Strategy: To be transferred by 2014+

Recipient: River Ridge Development Authority (RRDA)

Other Issues Affecting Transfer: None known to date

Parcel Name: Parcel I

Parcel Size: 91 acres

Associated Sites: FR1, TD, INAAP-14, 15, 74, 83

Transfer Date or Expected Transfer Date: 2008

Current Land Use: Industrial

Future Land Use: Recreational

Leases/Permits/Licenses: IDNR/RCRA post closure permit/none

Transfer Strategy: To be transferred in FY08

Recipient: IDNR

Other Issues Affecting Transfer: Explosive Decontamination required prior to transfer

INDIANA AAP

INSTALLATION RESTORATION PROGRAM

Total AEDB-R IRP Sites / AEDB-R sites with Response Complete: 90/84

Different Site Types:

1	Above Ground Storage Tank	9	Burn Areas
5	Contaminated Buildings	1	Contaminated Ground Water
2	Contaminated Sediments	5	Disposal Pit/Dry Well
17	Landfill	3	Maintenance Yard
9	Other	1	Pesticide Shop
1	Pistol Range	7	Sewage Treatment Plant
1	Spill Site Area	17	Storage Area
5	Surface Impoundment/Lagoon	1	Surface Runoff
3	Underground Storage Tank	1	Washrack
1	Waste Lines		

Most Widespread Contaminants of Concern: Propellant, Explosives, VOCs, SVOCs, Metals, Pesticides

Media of Concern: Groundwater, Soil, Sediment, Surface Water

Completed Removal (REM)/Interim Remedial Action (IRA)/Remedial Action (RA):

INAAP-04, 05, 25, 26, 27, 28, 34, 46, 56, 59, 60: Soil cover

INAAP-19, 44, 45, 54, 83: Soil removal

INAAP-06: Soil Removal and Dam Stabilization

Total IRP Funding

Prior years (up to FY05):	\$ 26,000.00K
Current year funding (FY06):	\$ 744.12K
Future Requirements (FY07+):	\$ 1,276.00K
Total:	\$ 28,020.12K

Duration of IRP

Year of IRP Inception: 1994

Year of RA Completion: 2008

Year of IRP Completion including Long-Term Management (LTM): 2039

INAAP is a non-NPL installation. In 1994, a CERCLA Phase I RI program was initiated to evaluate 85 sites. The Indiana Department of Environmental Management (IDEM) issued a letter on 15 December 1998 stating regulatory oversight for remedial corrective action activities had been transferred from U.S. Environmental Protection Agency (USEPA) Region V to IDEM's Corrective Action Section in the Hazardous Waste Facilities Branch. IDEM is currently the lead regulatory agency.

INAAP has been issued several operating permits by IDEM and USEPA Region V, some of which remain in effect. These permits govern operations for air emissions, wastewater treatment plant (NPDES) discharges, solid wastes, and hazardous wastes. It is assumed that all future work at INAAP will be part of a RCRA corrective action under the oversight of IDEM.

INAAP has a total of 90 Army Environmental Database - Restoration (AEDB-R) sites including storage tanks, sanitary and construction debris landfills, open storage areas, and surface impoundments.

Propellant, explosives, volatile organic compounds, semi-volatile organic compounds, and metals are the primary contaminants of concern at INAAP. In 1994, a Preliminary Assessment/Site Investigation (PA/SI) determined that the potential for off-site contamination did exist. Source area investigation activities have been performed at 64 sites. A Phase I remedial investigation was started in fiscal 1997 and completed in 1998. Although the majority of these sites required NFA (No Further Action), a strong baseline for future work was established at INAAP. Currently there are 19 sites that are still receiving funding for investigation and/or remediation. The majority of the environmental contamination is related to previous activities in the Propellant & Explosive Area (INAAP-63), the burning ground and surrounding areas, and the respective drainage areas.

Karst geology and the post-1941 wastewater-enhanced dissolution complicated the investigation and remediation of the sites. INAAP's karst geology includes enlarged fractures, joints and caves in the limestone that influence the flow direction, quantity, and quality of the groundwater.

The Gray Bat is an endangered species, and their presence will complicate the IRP. A maternity colony has been verified at INAAP.

Cleanup Exit Strategy

INAAP is an excess properties installation assigned to BRAC with the mission to cleanup and dispose of the property to the state of Indiana for recreational purpose and local reuse authority for industrial/commercial development. Specific details can be found in cleanup strategies of each site.

Site INAAP-90, Installation Groundwater, is not included in the transfer strategy.

1980

- Initial Assessment of INAAP, Report No. 154, US Army Toxic and Hazardous Materials Agency, January

1981

- Excess Area Contamination Survey of Indiana Army Ammunition Plant, Environmental Science and Engineering, Inc.

1984

- Final Report, Contamination Survey, Indiana Army Ammunition Plant, Charlestown, Indiana, Dames & Moore
- Environmental Contamination Survey of INAAP Exploratory Phase, Dames & Moore, December
- Environmental Contamination Survey of INAAP Exploratory Phase, Dames & Moore, December

1985

- Environmental Contamination Survey: Exploratory Phase, Dames and Moore, June
- Groundwater Contamination Survey, 38-26-0857-88, USAEHA, June
- Environmental Contamination Survey: Exploratory Phase, Dames and Moore, June
- Groundwater Contamination Survey, 38-26-0857-88, USAEHA, June

1992

- Site Investigation: An 858.63 Arce Parcel Excess under the Base Realignment and Closure Act, Indiana Army Ammunition Plant, Charlestown, Indiana, Vol. 1, US Army Corps of Engineers, Louisville
- Preliminary Site Inspection for Indiana Army Ammunition Plant, ENSR Consulting & Engineering
- Preliminary Site Inspection for INAAP, Report No. 392781, prepared for the US Army Toxic and Hazardous Material Agency, US Army Corps of Engineers, February

1994

- Preliminary Site Inspection for Indiana Army Ammunition Plant, Charlestown, Indiana, Advanced Sciences, Inc.
- Preliminary Site Inspection for Indiana Army Ammunition Plant Charlestown, Indiana, prepared for US Army Environmental Center, Advanced Sciences, Inc.

1995

- Preliminary Assessment, Indiana Army Ammunition Plant, Woodward Clyde Federal Services
- A preliminary Assessment of Hydrogeologic Significant Solution and Fracture Features, Indiana Army Ammunition Plant, Indiana Geological Survey
- Preliminary Assessment, Indiana Army Ammunition Plant. Prepared for ICI on behalf of the US Environmental Center, Woodward Clyde Federal Services

1996

- Division of Fish and Wildlife, Inventory of the Sub-terrain Biota Threatened by the Urbanization of Clark and Floyd Counties, Indiana Department of Natural Resources.

1997

- Bat Survey at the Indiana Army Ammunition Plant at Charlestown, US Fish and Wildlife Service

1998

- Environmental Baseline Survey, Indiana Army Ammunition Plant, Charlestown, Clark County, Indiana, Plexus Scientific Corporation
- Phase I Remedial Investigations Report, Woodward Clyde Federal Services
- Draft Final Phase 1 RI Report, Volumes 1 through 4, Woodward Clyde Federal Services

2001

- Draft Phase II RFI Report, Installation Groundwater - Site 90, URS Group, Inc., June
- Revised Final Report, Preliminary Characterization Study, P&E Area, Volumes 1 through 3, URS Group, Inc., June
- Draft Work Plan, Removal of AST's & Associated Contaminated Soils, CAPE, November

2002

- Draft Phase II RFI Report, Jenny Lind Pond - Site 25, URS Group, Inc., July
- Draft Phase II RFI Report, P&E Flume - Site 54, URS Group, Inc.
- Draft Phase II RFI Report, Burning Ground Area (Sites 26, 27, 28, 34, 46, 56, 59, 60), URS Group, Inc.
- Draft Phase II RFI Report, LAP Area - Site 75, URS Group, Inc., October
- Draft Phase II RFI Report, Igloo Area (Site 76), BAT Associates, Inc.
- Final Phase II RFI Report, Process Waste Settling Basin - Site 6, URS Group, Inc.
- Final Phase II RFI Report, South Ash Settling Basin - Site 4, URS Group, Inc.
- Final Phase II RFI Report, North Ash Settling Basin - Site 3, URS Group, Inc.
- Final Phase II RFI Report, Aniline Pond - Site 5, URS Group, Inc.
- Final Phase II RFI Report, Building 66: 1 Sump - Site 87, URS Group, Inc.
- Final Phase II RFI Report, 1500 Shops Area Drainage - Site 45, URS Group, Inc.
- Final Phase II RFI Report, P&E Area Flume - Site 54, URS Group, Inc.
- RFI Report, Igloo Area (Site 76), BAT Associates, Inc.
- Final Phase II RFI Report, Jenny Lind Pond - Site 25, URS Group, Inc.
- Final Phase II RFI Report, LAP Area - Site 76, URS Group, Inc.
- Final Phase II RFI Report, Burning Ground Area (Sites 26, 27, 28, 34, 46, 56, 59, 60), URS Group, Inc.
- Pre-Concept Design 10%, Corrective Measures for South Ash Settling Basin & Aniline Pond - Sites 4 & 5, URS Group, Inc.
- Draft Phase II RFI Report, Former Inert Burning Ground Area - Site 55, URS Group, Inc.
- Pre-Concept Design 10%, Corrective Measures for Process Waste Settling Basin - Site 6, URS Group, Inc.

2002

- Draft Phase II RFI Report, Suspected Propellant Burial Area East of "P" Loop - Site 24 - Site 55, URS Group, Inc.
- Draft Final Report, Landfill Sites (69-4 and 69-5), BAT Associates, Inc.
- Preliminary Design 60%, Corrective Measures for Process Waste Settling Basin - Site 6, URS Group, Inc.
- Pre-Concept Design 60%, Corrective Measures for South Ash Settling Basin & Aniline Pond - Sites 4 & 5, URS Group, Inc.
- South Ash Settling Basin and Aniline Pond, Sites 4 & 5 - 60% Design, URS Group, Inc.
- Final Work Plan, Removal of AST's & Associated Contaminated Soils, CAPE, January

2003

- Old Landfill, Site 1 - Draft RFI, URS Group, Inc.
- South Ash Settling Basin and Aniline Pond, Sites 4 & 5 - 90% Design, URS Group, Inc.
- Suspected Propellant Burial (P-Loop), Site 24 - Final RFI, URS Group, Inc.
- Drainage Area for 1500 Area Shops, Site 45 - Draft RA Work Plan, URS Group, Inc.
- P&E Area Flume, Site 54 - 10% Design, URS Group, Inc.
- Jenny Lind Pond, Site 25 - 30% Design, URS Group, Inc.
- P&E Area Flume, Site 54 - 60% Design, URS Group, Inc.
- Drainage Area for 1500 Area Shops, Site 45 - Final RA Work Plan, URS Group, Inc.
- South Ash Settling Basin and Aniline Pond, Sites 4 & 5 - Final Design, URS Group, Inc.
- Salvage Yard, Site 19 - Pre-draft RA Work Plan, URS Group, Inc.
- Process Waste Settling Basin, Site 6 - Phytoremediation Treatability Study, URS Group, Inc.
- Bldg 722-23 (PCB Storage), Site 9 - Final NFA Proposal, URS Group, Inc.
- Load, Assemble and Pack Area, Site 75 - Final NFA Proposal, URS Group, Inc.
- Bldg 2525 Wheelabrator Bag Houses, Site 44 - Draft RFI, URS Group, Inc.
- Summary Report, Removal of AST's & Associated Contaminated Soils, CAPE, April

2004

- Salvage Yard, Site 19 - Draft RA Work Plan, URS Group, Inc.
- Jenny Lind Pond, Site 25 - 60% Design, URS Group, Inc.
- BGA: 10% Design, URS Group, Inc.
- Salvage Yard, Site 19 - Final RA Work Plan, URS Group, Inc.
- Jenny Lind Pond, Site 25 - Final Design, URS Group, Inc.
- BGA: 60% Design, URS Group, Inc.
- Final Work Plan, Corrective Measures, Sites 4,5,45 & 54, CAPE, February
- Final Work Plan, Removal Action Site 19, CAPE, June
- Final Work Plan, Site 25, CAPE, July

2005

- BGA: Final Design, URS Group, Inc.
- Process Waste Settling Basin, Site 6 – Final Design, URS Group, Inc.
- P&E Area, Site 63 – Final Supplemental Phase II RFI, URS Group, Inc.

2005, cont'd

- Jenny Lind Pond, Site 25 – Final Report, Pre-Design Investigation for JLP Outfall Area
- Long Term Monitoring Field Sampling Plan (Sites 4, 5, and 54), URS Group, Inc.
- Long Term Monitoring Report (Sites 4, 5, and 54), URS Group, Inc
- Final Construction Completion Report Removal Action Site 19, CAPE, December
- Final Work Plan, Corrective Measures, Burning Ground Area, CAPE, March 2005

2006

- Remedial Action Operations Field Sampling Plan (Sites 4, 5, 25, 54, and BGA), URS Group Inc
- P&E Area, Site 63, Draft Removal Action Work Plan, URS Group, Inc.
- Process Waste Settling Basin, Site 6, Corrective Measure Implementation, URS Group, Inc.
- Final Construction completion Report for Corrective Measures Sites 4,5,45 &54, CAPE, March
- Draft Construction Completion report, Corrective Measures, Burning Ground Area, CAPE, May

INDIANA AAP

Installation Restoration Program

Site Descriptions

INAAP-04

SOUTH ASH SETTLING BASIN

SITE DESCRIPTION

The South Ash Settling Basin covers approximately 4.6 acres and intermittently received slurried ash from the south coal-fired power plant from 1941 to 1972. It also received wastewater from the P&E Area from the production of nitrobenzene, aniline, diphenylamine, and dimethylaniline. It may also contain nitrocellulose waste. The basin is located in a topographic low within the upper reaches of Jenny Lind Run, near the Gray Bat habitat area. The ground surface surrounding the basin is about 20 feet higher than the ground surface at the basin. An earthen dike formerly separated the site from the Aniline Pond (INAAP-05). A small intermittent stream flows through the basin. Groundwater was encountered at depths of 0.9 to 8.5 feet bgs.

Low levels of VOCs, SVOCs, pesticides and nitroaromatics/ nitroamines were detected in soil/sediment. Elevated levels of metals were also detected in the soils/sediment.

A final design was completed in FY03. The soil cover and erosion controls were installed in FY04; thus, remedy is in place. A decision document approving the remedy was signed in 2003. **This site is in Parcel H.**

Surface water and sediment sampling has been completed.

CLEANUP STRATEGY

O&M of the cover will be required.

As part of LTM, periodic assessments of the remedy will be performed to ensure remedy in place continues effectiveness.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: H

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals, Explosives

MEDIA OF CONCERN:
Soil, Sediment, Surface Water

Phases	Start	End
PA	197902	198001
SI	198708	198708
RI/FS	200003	200206
RD	200203	200306
RA(C)	200306	200410
RA(O)	200505	200606
LTM	200607	203609

RIP DATE: 200505

RC DATE: 200606

INAAP-05 ANILINE POND

SITE DESCRIPTION

The Aniline Pond covers approximately 1.4 acres and has a capacity of about 600,000 gallons. During World War II and the Korean Conflict, the pond received wastewater from the production of nitrobenzene, aniline, diphenylamine, and dimethylaniline. The Aniline Pond is located in a topographic low at the head of Jenny Lind Run. The ground surface surrounding the basin is about 5 feet higher than the ground surface at the pond. An earthen dike formerly separated the site from the South Ash Settling Basin (Site 4). Groundwater was encountered at depths of 0.3 to 1.0 feet bgs.

Low levels of several VOCs, SVOCs, pesticides and nitroaromatics/ nitroamines and elevated levels of metals and a few VOCs/SVOCs were detected in soil. VOCs were detected in groundwater.

A final design was completed in FY03. The soil cover and erosion controls were installed in FY04; thus, remedy is in place. A decision document approving the remedy was signed in 2003. **This site is in Parcel H.**

Surface water and sediment sampling has been completed.

CLEANUP STRATEGY

O&M of the cover will be required. Expect response complete November 2006.

As part of LTM, periodic assessments of the remedy will be performed to ensure remedy in place continues effectiveness.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: H

RRSE: Medium

CONTAMINANTS OF CONCERN:
SVOCs, Metals, VOCs, Explosives

MEDIA OF CONCERN: Sediment,
Soil, Surface Water

Phases	Start	End
PA.....	197902	198001
SI.....	198708	198708
RI/FS	200003	200206
RD	200203	200306
RA(C)	200306	200410
RA(O)	200505	200606
LTM	200607	203609

RIP DATE: 200505

RC DATE: 200606

PROCESS WASTE SETTLING BASIN

SITE DESCRIPTION

The Process Waste Settling Basin is located where the P&E Area Flume (Site 54) drains into Jenny Lind Run. It is approximately 1800'x 200' in dimension (66,000 cubic yards (cy)) and was operational from 1940-45, 1952-54, and 1968-72.

The basin received effluent from the P&E Area in addition to lime and gypsum sludge and spent sulfuric acid. The basin is long and narrow with a stream flowing through the center of the basin. The basin has been filled in with sediment to the top of the dam outflow structure. The surrounding ground surface slopes steeply toward the basin and is covered by a thick growth of trees. Groundwater was encountered at a depth of about 1 foot below ground surface (bgs).

Low levels of VOCs, SVOCs, pesticides, PCBs and explosives and elevated levels of chromium, DNT, TPH, and BAP were detected in the soil. A Tier III Ecological Risk Assessment was completed in FY02.

This area supports the endangered Gray Bat (*myotis grisescens*) and the Indiana Bat.

A final RFI was completed in FY02, and the CMS was completed in FY03. Results indicate that currently there is no risk to human health, but there is a risk to the ecology/environment. A decision document approving the remedy was signed in 2005.

The design was finalized in June 2005. The design includes hot spot remediation, and stabilization in place through dam rehabilitation and channel stabilization. **The site is Parcel F.**

Hot spot removal and dam rehabilitation completed in FY06.

CLEANUP STRATEGY

RA(O) will be performed for two years. LTM consisting of site inspections and reporting will be conducted from April 2008 through 2039.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: F

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals, Explosives, Nitrocellulose

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

Phases	Start	End
PA	197902.....	198001
Sl.....	198708.....	198708
RI/FS.....	200003.....	200206
RD	200203.....	200503
RA(C)	200410.....	200606
RA(O)	200606.....	200804
LTM.....	200805.....	203809

RIP DATE: 200606

RC DATE: 200804

INAAP-25

JENNY LIND POND

SITE DESCRIPTION

Jenny Lind Pond (~20 acres) is located about one-half mile upstream of the point where Jenny Lind Run discharges into the Ohio River. The earthen dam at the southeastern end of the pond had a principal and emergency spillway. The surrounding area slopes steeply toward the pond and is covered with woodlands. The discharge area below the dam along Jenny Lind Run is known to experience flooding during periods of elevated water levels in the Ohio River.

The watershed of Jenny Lind Pond includes all or part of 32 Phase I RI sites. The pond was built in the late 1950s to retain industrial wastewater before discharge to the Ohio River and has received P&E Area effluent. Previous investigations have detected organic compounds and metals in sediment and surface water.

The earthen dam failed in March 1997 as a result of precipitation and subsequent flooding of the Ohio River. The pond is completely drained. Beaver dams are a potential problem. The endangered Gray Bat (*myotis grisescens*) and the Indiana Bat may be threatened by the metals contamination in the food chain.

Low levels of VOCs, SVOCs, pesticides and PCBs and elevated levels of metals, nitroaromatics, and a few SVOCs were detected in the soil. The RFI and the CMS were completed in FY02. A 30% design was completed in FY03. The final design was completed and the CMI was initiated in FY04. A decision document approving the remedy was signed in 2004. Soil cover and stream stabilization was completed during FY05. **The site is Parcel F.**

CLEANUP STRATEGY

Surface water and sediment sampling will be conducted at six locations semi-annually for two years. LTM consisting of site inspections and maintenance will be conducted until 2037.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: F

RRSE: High

CONTAMINANTS OF CONCERN:
Metals, VOCs, SVOCs, DNT,
Nitrocellulose

MEDIA OF CONCERN: Soil,
Ground water, Sediment, Surface
Water

Phases	Start	End
PA	197902	198001
SI	198708	198708
RI/FS	200003	200206
RD	200203	200403
RA(C)	200403	200509
RA(O)	200505	200709
LTM	200710	203709

RIP DATE: 200509

RC DATE: 200709

INAAP-26 OLD TRASH BURNING AREA

SITE DESCRIPTION

The Old Trash Burning Area is an irregular shaped area approximately 175 feet by 500 feet. This area was reportedly used to burn trash and general refuse prior to 1969. Debris was encountered 0 to 11 feet bgs under laid by residual clay. Bedrock was not encountered in any of the borings, but was encountered in four of five trenches. Groundwater was only encountered in one trench at a depth of 11 feet bgs.

Low levels of VOCs and elevated levels of SVOCs, metals, Trinitrotoluene (DNT), and Total Petroleum Hydrocarbons (TPH) were detected in soils. The RFI was completed in FY02. The design was completed, and a decision document approving the remedy was signed in 2004.

Debris removal and soil cover completed in FY06. **The site is Parcel F.**

CLEANUP STRATEGY

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, and 60 due to their proximity within the Burning Ground Area. Surface water and sediment sampling will be conducted at three locations semi-annually for two years (at sites 28 & 59 only). Cost for all sites will be captured under sites 28 & 59. LTM consisting of site inspections will be conducted until 2038.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: F

RRSE: Medium

CONTAMINANTS OF CONCERN:
POL, Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	197902	198001
SI	199109	199109
RI/FS	200002	200206
RD	200203	200406
RA(C)	200409	200512

RC DATE: 200512

INAAP-27

BLDG 714-5 (LEAD SMELTING SHED)

SITE DESCRIPTION

Lead Storage Building 714-5 is a 350 square foot building with open sides. Scrap lead was reportedly melted into ingots at the site. Bedrock was encountered in two of three borings. Groundwater was not observed in any borings at depths up to 10 feet bgs.

The Phase I RI at Site 27 included the completion of three soil borings and the collection and analysis of 15 surface and subsurface soil samples. Chemical analysis for all samples included metals. Two samples were also analyzed for VOCs and SVOCs.

Low levels of VOCs, SVOCs and metals and elevated levels of lead were detected in the soil. The design was completed, and a decision document approving the remedy was signed in 2004.

Debris removal and soil cover completed in FY06. **The site is Parcel F.**

CLEANUP STRATEGY

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, and 60 due to their proximity within the Burning Ground Area. Surface water and sediment sampling will be conducted at three locations semi-annually for two years (at sites 28 & 59 only). Cost for all sites will be captured under sites 28 & 59. LTM consisting of site inspections will be conducted until 2038.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: F

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals, Nitrates,
Nitrocellulose

MEDIA OF CONCERN: Soil,
Sediment, Surface Water,
Groundwater

Phases	Start	End
PA	197902	198001
SI	199110	199202
RI/FS	200002	200206
RD	200203	200406
RA(C)	200409	200512

RC DATE: 200512

INAAP-28

DRAINAGE AREA DUMPING GROUND

SITE DESCRIPTION

The Drainage Area Dumping Ground covers about 4,000 square feet and is overgrown with trees and shrubs. A drainage ditch runs through the center of the site and receives stormwater runoff from upgradient Sites 17, 26, 27, 34, 46, 56, and 60. The area was reportedly used to store general refuse, construction debris, maintenance materials, and metal containers from 1940 to 1969. Surface debris is visible at the site. Ground surface on both sides drains towards the ditch. The ditch draining stormwater runoff from the site eventually discharges into Jenny Lind Pond. Groundwater was not observed in any trench or boring to depths up to 10 feet bgs.

Elevated levels of SVOCs and lead were detected in the soil. It should be noted that upgradient ditch samples have elevated levels of mercury, arsenic and lead. The design was completed, and a decision document approving the remedy was signed in 2004.

Debris removal and soil cover completed in FY06.
The site is Parcel F.

CLEANUP STRATEGY

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, and 60 due to their proximity within the Burning Ground Area. Surface water and sediment sampling will be conducted at three locations semi-annually for two years (at sites 28 & 59 only). Cost for all sites will be captured under sites 28 & 59. LTM consisting of site inspections will be conducted until 2038.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: F

RRSE: Medium

CONTAMINANTS DRIVER: VOCs, SVOCs, Metals, Propellants, Explosives, Nitrates

MEDIA OF CONCERN: Soil, Groundwater, Sediment, Surface Water

Phases	Start	End
PA.....	197902	198001
SI	199110	199202
RI/FS	200002	200206
RD	200203	200406
RA(C).....	200409	200512
RA(O)	200601	200712
LTM	200801	203812

RIP DATE: 200601

RC DATE: 200712

INAAP-34 TRASH INCINERATOR

SITE DESCRIPTION

The Trash Incinerator was enclosed within a cyclone fence in an area approximately 500 feet square. Waste paper was reportedly burned from 1940 to 1969. The location of ash disposal is unknown. Groundwater was not observed in the trench. Bedrock was encountered in the trench and all shallow soil samples. Black fine sand (possible ash material) was observed at the eastern edge of the trench.

Low levels of VOCs, SVOCs, DNT and TPH and elevated levels of lead were detected in the soil. The RFI was completed in FY02. The design was completed, and a decision document approving the remedy was signed in 2004.

Debris removal and soil cover completed in FY06. **The site is Parcel F.**

CLEANUP STRATEGY

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, and 60 due to their proximity within the Burning Ground Area. Surface water and sediment sampling will be conducted at three locations semi-annually for two years (at sites 28 & 59 only). Cost for all sites will be captured under sites 28 & 59. LTM consisting of site inspections will be conducted until 2038.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: F

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals, Black Powder, Nitrates

MEDIA OF CONCERN: Soil, Sediment, Groundwater, Surface Water

Phases	Start	End
PA	197902	198001
SI	199110	199202
RI/FS	200002	200206
RD	200203	200406
RA(C)	200409	200512

RC DATE: 200512

INAAP-46 BLUFF DUMPING AREA

SITE DESCRIPTION

The Bluff Dumping Area consists of a flat area along the top of a bluff and a steep slope from the edge of the bluff to the floodplain of the Ohio River to the east. Waste/debris was reportedly disposed on the flat area and on the slope from 1946 to 1964. Waste from the Flashing Rack (Site 18) was observed at this site in November 1994. Debris observed at the site includes railroad ties, propellant drum lids and lid bands, propellant drums, asphalt materials, iron pipe, metal siding, 55-gallon drums, concrete, brick, gravel, and miscellaneous scrap metal. The flat area on top of the bluff is tree-covered on the north and south ends and grass-covered elsewhere. The steep slope is tree-covered with bedrock exposures. A ridge exists along the steep slope, below which the slope drops approximately 100 feet to the floodplain below. A portion of the flat area drains toward a ditch to the south. The north end of the site is drained by a ditch that runs nearly straight downslope. Other surface water drains downslope.

Groundwater was not encountered in any soil boring. Elevated levels of SVOCs, pesticides, metals, and TPH were detected in soil and sediment. The design was completed, and a decision document approving the remedy was signed in 2004.

Debris removal and soil cover completed in FY06. **The site is Parcel F.**

CLEANUP STRATEGY

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, and 60 due to their proximity within the Burning Ground Area. Surface water and sediment sampling will be conducted at three locations semi-annually for two years (at sites 28 & 59 only). Cost for all sites will be captured under sites 28 & 59. LTM consisting of site inspections will be conducted until 2038.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: F

RRSE: High

CONTAMINANTS OF CONCERN:

POL, VOCs, SVOCs, Metals,
Propellants, Explosives

MEDIA OF CONCERN: Soil,
Groundwater, Sediment, Surface
Water

Phases	Start	End
PA.....	197902	198001
SI	199110	199202
RI/FS	200002	200206
RD	200203	200406
RA(C).....	200409	200512

RC DATE: 200512

INAAP-54

P&E AREA FLUME

SITE DESCRIPTION

The P&E Area Flume carried process waste water, sewage effluent and stormwater runoff from the P&E Area to a discharge point approximately 200 to 300 feet upgradient of the Process Waste Settling Basin (INAAP-6). It is primarily a wooden structure that is 4 feet by 6 feet wide with one section that consists of a rectangular concrete culvert. Parts of the flume are in the ground and others are elevated as much as 5 feet above ground. The flume parallels the streambed of Jenny Lind Run. The P&E Area Flume is approximately two miles long and in various stages of disrepair. Propellant grains were observed at multiple locations along the entire run of the flume. Surface water was observed flowing from caves and springs and into caves, swallets, or sinkholes at several locations within the streambed of Jenny Lind Run and along the flume. Flow in the flume most likely has entered the subsurface directly through these karst features. Groundwater was not observed in the soil boring and was observed in only one shallow soil sample. This site is near the Gray Bat habitat area.

Low levels of VOCs and pesticides and elevated levels of SVOCs, lead and DNT were detected in soils. Final RFI and CMS were completed in FY02. The 60% design was completed in FY03. The mercury-contaminated soil (~300 tons total) was removed from around the pressure gauges (INAAP-63) and from within Section I of the P&E Flume in FY03. The CMI phase was awarded in FY03 and field work was completed in FY04. **This site is located in Parcel H.**

CLEANUP STRATEGY

One additional year of sediment/surface water sampling is planned; after which, no further action is anticipated.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: H

RRSE: High

CONTAMINANTS OF CONCERN:

Nitrates, Nitrocellulose, SVOCs, VOCs, Metals, Propellants

MEDIA OF CONCERN: Soil, Groundwater, Surface Water, Sediment

Phases	Start	End
PA	197902	198001
SI	197902	198001
RI/FS.....	200009	200206
RD	200212	200306
RA(C).....	200306	200512
RA(O).....	200512	200712

RIP DATE: 200512

RC DATE: 200712

INAAP-56 POWER INCINERATOR

SITE DESCRIPTION

The former Powder Incinerator was used to burn nitrocellulose and propellant. The foundation was a 12-foot by 12-foot concrete cauldron reportedly resting on exposed bedrock. The building structure has been demolished, but the foundation is still present. Groundwater was not observed in any soil borings.

The Phase I RI at Site 56 included the completion of two soil borings and collection and analysis of eight surface and subsurface soil samples. Chemical analysis included VOCs, SVOCs, metals, TPH, explosives and nitrate/nitrite.

Low levels of VOCs, SVOCs and lead were detected in the soil. A RFI was completed in FY02. The design was completed, and a decision document approving the remedy was signed in 2004. **The site is Parcel F.**

Debris removal and soil cover completed in FY06.

CLEANUP STRATEGY

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, and 60 due to their proximity within the Burning Ground Area. Surface water and sediment sampling will be conducted at three locations semi-annually for two years (at sites 28 & 59 only). Cost for all sites will be captured under sites 28 & 59. LTM consisting of site inspections will be conducted until 2038.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: F

RRSE: Low

CONTAMINANTS OF CONCERN:
POL, SVOCs, VOCs, Metals,
Propellants, Explosives

MEDIA OF CONCERN: Soil,
Groundwater, Surface Water,
Sediment

Phases	Start	End
PA	199210	199301
SI	199306	199404
RI/FS	200002	200206
RD	200203	200406
RA(C)	200409	200512

RC DATE: 200512

INAAP-59 RAVINE DUMPING AREA

SITE DESCRIPTION

The Ravine Dumping Area is an irregular-shaped area approximately 500 feet by 1,000 feet. Residues from the burning area were reportedly disposed of here during the 1960s and are visually evident at the site. The topography of most of the site is relatively flat and covered with grass. A ravine is present on the west side. At the base of the ravine is a stream that drains storm water runoff from the area. Local surficial geology within the plateau area consists of 0.8 to 2.1 feet of silty clay fill with trace amounts of ash and rubble underlain by residual clay and silty clay. Bedrock is exposed at several locations and was encountered in every boring from depths of 0.8 to 4.3 feet bgs. Sediment samples collected along the streambed consisted of alluvial silty sand with trace gravel. Groundwater was not observed in any borings.

Low levels of VOCs and pesticides and elevated levels of SVOCs, TPH, DNT, arsenic and lead were detected in the soil. A RFI was completed in FY02. The design was completed, and a decision document approving the remedy was signed in 2004. **The site is Parcel F.**

Debris removal and soil cover completed in FY06.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: F

RRSE: Medium

CONTAMINANTS OF CONCERN: VOCs, SVOCs, Metals, Pesticides, POL, PCB, Propellants, Explosives, Nitrocellulose

MEDIA OF CONCERN: Soil, Sediment, Surface Water, Groundwater

Phases	Start	End
PA	197902	198001
SI	199110	199202
RI/SI	200002	200206
RD	200203	200406
RA(C)	200409	200512
RA(O)	200601	200712
LTM	200801	203812

RIP DATE: 200601

RC DATE: 200712

CLEANUP STRATEGY

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, and 60 due to their proximity within the Burning Ground Area. Surface water and sediment sampling will be conducted at three locations semi-annually for two years (at sites 28 & 59 only). Cost for all sites will be captured under sites 28 & 59. LTM consisting of site inspections will be conducted until 2038.

INAAP-60 BURNING GROUND LANDFILL

SITE DESCRIPTION

The Burning Ground was listed in INAAP's RCRA Part B Permit and has been closed. It was a graveled area about 200 x 300 feet. The Burning Ground was used starting in 1941 to burn off-specification or waste propellant up to a rate of 480,000 pounds per year. The Burning Ground Landfill is believed to occupy several acres. The landfill was active in the early to mid 1940s and 1950s. Materials reportedly disposed of at this landfill include organic and chlorinated organic solvents. The landfill is unlined and soil covered. Surface debris is not visible.

Elevated levels of VOCs, SVOCs, and lead and low levels of DNT were detected in the soil. A RFI was completed in FY02. The design was completed, and a decision document approving the remedy was signed in 2004. **The site is Parcel F.**

Debris removal and soil cover completed in FY06.

CLEANUP STRATEGY

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, and 60 due to their proximity within the Burning Ground Area. Surface water and sediment sampling will be conducted at three locations semi-annually for two years (at sites 28 & 59 only). Cost for all sites will be captured under sites 28 & 59. LTM consisting of site inspections will be conducted until 2038.

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: F

RRSE: Medium

CONTAMINANTS OF CONCERN: VOCs, SVOCs, Metals, Propellants, Explosives, Nitrates, PCBs

MEDIA OF CONCERN: Soil, Sediment, Surface Water, Groundwater

Phases	Start	End
PA.....	199306	199404
SI.....	199306	199404
RI/FS	200002	200206
RD	200203	200406
RA(C)	200409	200512

RC DATE: 200712

INAAP-63 P&E AREA

SITE DESCRIPTION

The P&E Manufacturing Area (1,500 acres) was a single-based propellant manufacturing facility that was operated intermittently from 1941 until 1970. The major process areas included two nitric acid manufacturing areas, two nitrocellulose manufacturing and purification areas, and two propellant manufacturing and finishing areas. Major support areas include an aniline manufacturing area, two coal burning power plants, approximately 450 ASTs, and an extensive railroad system. Specific sites within the P&E Area include INAAP-4, 5, 9, 19, 54, 62 and NFA sites 7, 10, 16, 20, 23, 35, 36, 53, 70, 72, 81.

INAAP-32 is addressed under INAAP-63. The topography of most of the area is relatively flat, ranging from 600 feet above MSL to 620 feet above MSL. The P&E Area lies within the Jenny Lind drainage basin. A valley is located in the southern portion of the site with elevations ranging from 520 to 600 feet above MSL. The Jenny Lind Flume is located within this valley. The majority of storm water runoff drains through ditches and culverts or sheet flows into Jenny Lind Run drainage basin.

Low levels of VOCs, pesticides, PCBs and TPH and elevated levels of BAP, DNT, nitrocellulose, mercury, arsenic, and chromium were detected in shallow soil. A Preliminary Characterization Study and RFI field screening activities were completed in FY01. The Phase II RFI was started in FY02 and fieldwork was completed in FY04. The mercury-contaminated soil (~300 tons total) was removed from around the pressure gauges and from within Section I of the P&E Flume (INAAP-54) in FY03. A comprehensive draft Supplemental Phase II RFI report on all IRP activities to date was completed in FY04. **This site is located in Parcel H.**

The RFI was completed in FY05. The Remedial Action Work Plan (RAWP) was completed in FY06.

CLEANUP STRATEGY

4260 cy (assuming) non-hazardous soil removal is anticipated. Remedy in place in 2007. INAAP-63 will be closed in 2014+, after explosive decontamination at this site (funded by OMA dollars).

STATUS

REGULATORY DRIVER: CERCLA

PARCEL NAME: H

RRSE: High

CONTAMINANTS OF CONCERN: VOCs, SVOCs, Metals, Pesticides, POL, PCB, Propellants

MEDIA OF CONCERN: Soil, Sediment, Surface Water, Groundwater

Phases	Start	End
PA.....	197902	198001
SI.....	199110	199202
RI/FS	200003	200503
RD	200501	200606
RA(C)	200606	200706

RC DATE: 200709

INAAP-90

INSTALLATION GROUNDWATER

SITE DESCRIPTION

INAAP-90 was established (opened in AEDB-R in 2000) to evaluate the potential for widely distributed groundwater contamination related to INAAP, potentially resulting from multipoint or non-point source groundwater pollution. INAAP has karsts geology that complicates the investigation of surface/groundwater.

The site originally consisted of four temporary groundwater monitoring locations established during the INAAP Stratigraphic Confirmation Coring program in 1996. No groundwater analytical data existed for the majority of INAAP. No evidence existed of off-post groundwater impact.

A draft facility-wide hydrogeological model was completed in FY01. Monitoring wells were installed along the eastern boundaries (along the Ohio River) in FY01. The installation of monitoring wells along the northern, western, and southern property boundaries was completed in FY02. Springs both on- and off-post were surveyed and sampled in addition to sampling monitoring wells in FY02 and FY03.

There were a total of 19 installation-wide monitoring wells and ~50 springs (20 off-post) sampled. The data obtained thus far indicated low levels of contamination that do not require further action. Groundwater and surface water monitoring has been completed. The site was approved for NFA in February 2006.

Twenty-five temporary wells and nine permanent wells have been abandoned.

CLEANUP STRATEGY

Abandon ten permanent wells in FY07.

This site is not part of the transfer strategy.

STATUS

REGULATORY DRIVER: RCRA, C

RRSE: High

CONTAMINANTS: VOCs, SVOCs, Metals, Propellants Explosives, Nitrates

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
RFA	199703	199812
RI/FS	200103	200609

RC DATE: 200609

IRP NFA Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
INAAP-01	Old Landfill	Study Complete, No Cleanup Required	200602
INAAP-02A	New Landfill (sanitary)	Study Complete, No Cleanup Required	198708
INAAP-02B	New Landfill (RCRA)	Not Eligible for ER,A BRAC Funding	199705
INAAP-03	North Ash Settling Basin	Study Complete, No Cleanup Required	200303
INAAP-07	Building 714-18 (RCRA 90-Day Storage)	Study Complete, No Cleanup Required	200202
INAAP-08	Building 229-1 (Scrap Powder 90- Day)	Study Complete, No Cleanup Required	200501
INAAP-09	Building 722-23 (PCB Storage)	Study Complete, No Cleanup Required	200312
INAAP-10	P&E Area Sewage Treatment Plant	Study Complete, No Cleanup Required	200202
INAAP-11	River Ridge North Sewage Treatment Plant	Study Complete, No Cleanup Required	200202
INAAP-12	River Ridge South Sewage Treatment	Study Complete, No Cleanup Required	200202
INAAP-13	Lap Area Sewage Treatment Plan	Study Complete, No Cleanup Required	200202
INAAP-14	Black Powder Sanitary STP	Study Complete, No Cleanup Required	200202
INAAP-15	Black Powder Industrial WWTP	Study Complete, No Cleanup Required	200202
INAAP-16	P&E Neutralization Facility	Study Complete, No Cleanup Required	200202
INAAP-17	Burning Ground	Not Eligible for ER,A BRAC Funding	200202
INAAP-18	Flash Rack	Not Eligible for ER,A BRAC Funding	199609
INAAP-19	Salvage Yard	All Required Cleanup(s) Completed	200511
INAAP-20	Caustic Cleaning Facility	Study Complete, No Cleanup Required	200202
INAAP-21	Bldg. 229-156 Lead Storage	Study Complete, No Cleanup Required	200501
INAAP-22	Suspected Propellant Burial Site	Study Complete, No Cleanup Required	200202
INAAP-23	P&E Sinkhole	Study Complete, No Cleanup Required	200202
INAAP-24	Suspected Propellant Burial Area	Study Complete, No Cleanup Required	200303

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
INAAP-29	Bldg. 228-1 Septic Tank	Study Complete, No Cleanup Required	200202
INAAP-30	Bldg. 4951 Septic Tank	Study Complete, No Cleanup Required	200202
INAAP-31	Saw Shed Septic Tank	Study Complete, No Cleanup Required	200202
INAAP-32	Bldg. 706-3 Laboratory	Study Complete, No Cleanup Required	200501
INAAP-33	Farmhouse Basement Burial Pit	Study Complete, No Cleanup Required	200303
INAAP-35	Laboratory Building 706-1	Study Complete, No Cleanup Required	200202
INAAP-36	Bldg. 228-1 Ballistics Lab	Study Complete, No Cleanup Required	200303
INAAP-37	Spray Paint Booth in Bldg. 1503	Study Complete, No Cleanup Required	200202
INAAP-38	Inert Area Can Burial Site	Study Complete, No Cleanup Required	200202
INAAP-39A	LAP Sanitary Sewer System	Study Complete, No Cleanup Required	200511
INAAP-39B	Black Powder Sanitary Sewer System	Study Complete, No Cleanup Required	200511
INAAP-39C	River Ridge North Sanitary Sewer System	Study Complete, No Cleanup Required	200511
INAAP-39D	River Ridge South Sanitary Sewer System	Study Complete, No Cleanup Required	200511
INAAP-39E	P&E Sanitary Sewer System	Study Complete, No Cleanup Required	200511
INAAP-40	Motor Pool/Automotive Garage	Study Complete, No Cleanup Required	200501
INAAP-41	Parts Cleaner System	Study Complete, No Cleanup Required	200202
INAAP-42	Bldg. 2535 Silver Hyposolution Storage Area	Study Complete, No Cleanup Required	200202
INAAP-43	Bldg. 2581 Accumulation Area	Study Complete, No Cleanup Required	200202
INAAP-44	Bldg. 2525 Wheelabrator Baghouses	Study Complete, No Cleanup Required	200511
INAAP-45	1500 Shop Area Drainage	All Required Cleanup(s) Completed	200501

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
INAAP-47	Powder Prep Can Burial Area	Study Complete, No Cleanup Required	200202
INAAP-48-1	Rail Shiphouse Can Storage Area	Study Complete, No Cleanup Required	200501
INAAP-48-2	Rail Shiphouse Can Storage Area	Study Complete, No Cleanup Required	200202
INAAP-49	1500 Area Disposal Pit	Study Complete, No Cleanup Required	200303
INAAP-50	Screening Building Sumps	Study Complete, No Cleanup Required	200303
INAAP-51	Rail Shiphouse Burial Area	Study Complete, No Cleanup Required	200202
INAAP-52	Rail Car Burning Area	Study Complete, No Cleanup Required	200202
INAAP-53	Bldg. 104-3 Cotton Dry House	Study Complete, No Cleanup Required	200202
INAAP-55	Former Inert Area Burning Ground	Study Complete, No Cleanup Required	200303
INAAP-57	Bldg. 719-1 Laboratory	Study Complete, No Cleanup Required	200303
INAAP-58	Paint Accumulation Area at Bldg 1503	Study Complete, No Cleanup Required	200202
INAAP-61	Inert Can/Drum Storage Area	Study Complete, No Cleanup Required	200202
INAAP-62	Bldg. 706-4 Laboratory Bldg.	Study Complete, No Cleanup Required	200501
INAAP-64	Railroad Tie Disposal Area	Study Complete, No Cleanup Required	200202
INAAP-65	Rail Shiphouse Area	Study Complete, No Cleanup Required	200501
INAAP-66	Static Test Area	Study Complete, No Cleanup Required	200202
INAAP-67	Former Burning Ground	Study Complete, No Cleanup Required	200202
INAAP-68	Medical Clinic	Study Complete, No Cleanup Required	200202
INAAP-69-1	Construction Debris Landfill	Study Complete, No Cleanup Required	200501
INAAP-69-2	Construction Debris Landfill	Study Complete, No Cleanup Required	200501
INAAP-69-3	Construction Debris Landfill	Study Complete, No Cleanup Required	200501
INAAP-69-4	Construction Debris Landfill	Study Complete, No Cleanup Required	200303
INAAP-69-5	Construction Debris Landfill	Study Complete, No Cleanup Required	200303
INAAP-70	Bldg. 706-2 Acid Laboratory	Study Complete, No Cleanup Required	200202

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
INAAP-71	Installation Underground Storage Tanks	Other	200303
INAAP-72	Former USTs 716-2, 718	Study Complete, No Cleanup Required	200303
INAAP-73	Form UST 3019B	Other	200303
INAAP-74	Black Powder Plant	Study Complete, No Cleanup Required	200202
INAAP-75	Load, Assemble and Pack Area	Study Complete, No Cleanup Required	200501
INAAP-76	Igloo Area	Study Complete, No Cleanup Required	200303
INAAP-77	Truck Shiphouse Area	All Required Cleanup(s) Completed	200202
INAAP-78	Container Renovation Building	Study Complete, No Cleanup Required	200303
INAAP-79	Firing Range	Not Eligible for ER,A/BRAC Funding	199707
INAAP-80	1500 Area Shops	Study Complete, No Cleanup Required	200303
INAAP-81	Bldg. 707-5 Pesticide Storage	Study Complete, No Cleanup Required	200202
INAAP-82	Burial Pit	Study Complete, No Cleanup Required	200303
INAAP-83	Installation Above Ground Storage Tanks	All Required Cleanups(s) Completed	200511
INAAP-84	Drum Storage Area	Study Complete, No Cleanup Required	200202
INAAP-85	Paint Thinner Drum Storage Area	Other	200202
INAAP-86	Spill Area	Study Complete, No Cleanup Required	200303
INAAP-87	Bldg. 6603 Sewage Collector Tank	Study Complete, No Cleanup Required	200202
INAAP-89	Propellant Contaminated Sediment at Jenny Lind Pond	Other	200602
INAAP-90	Installation Groundwater	Study Complete, No Cleanup Required	200602

Past Phase Completion Milestones for IRP, MMRP and Closure Related Compliance:

1980

- Installation IRP Start Date
- IRP PA
- PA/SI Completion (72 Sites)

1992

- PA/SI Completion (INAAP 66 and 67)

1993

- PA (13 Sites)

1995

- Phase I RI (65 sites)

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates and Associated Sites: 2008

Projected Construction Completion Date of IRP: 2008

Schedule for 5 Year Reviews: None planned

Estimated Completion Date of Cleanup at Installation (including LTM Phase): 2039

Indiana Army Ammunition Plant IRP Schedule
(Based on current funding)

AEDB-R#	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
INAAP-04	LTM									203609
INAAP-05	LTM									203609
INAAP-06	RA(O)									
	LTM									203809
INAAP-25	RA(O)									
	LTM									203709
INAAP-28	RA(O)									
	LTM									203812
INAAP-54	RA(O)									
INAAP-59	RA(O)									
	LTM									203812
INAAP-63	RA(C)									

Prior Years Funds

Total Funding up to FY04: \$26,000 K

Current Year Requirements

Year	Site Information	Requirements	FY Total
FY 06	INAAP-04 – RAO.....	\$4.0 K	
	INAAP-05 – RAO.....	\$4.0 K	
	INAAP-06 – RAC.....	\$266.5 K	
	INAAP-06 – RAO.....	\$47.7 K	
	INAAP-25 – RAO.....	\$57.4 K	
	INAAP-28 – RAC.....	\$15.0 K	
	INAAP-28 – RAO.....	\$19.2 K	
	INAAP-54 – RAC.....	\$6.1 K	
	INAAP-54 – RAO.....	\$23.0 K	
	INAAP-59 – RAC.....	\$21.4 K	
	INAAP-59 – RAO.....	\$19.1 K	
	INAAP-63 – RD.....	\$20.0 K	
	INAAP-63 – RAC.....	\$231.7 K	
	INAAP-90 – RI.....	9.0 K	\$744.1 K

Total Requirements FY06: \$744.1 K

Total Future Requirements: \$1,276K

Total IR Program Cost (from inception to completion of the IRP): \$28,020.1K

INDIANA AAP

Military Munitions Response Program

Total AEDB-R MMRP Sites/AEDB-R sites with Response Complete: 1/0

AEDB-R Site Types: Firing Range

Most Widespread Contaminants of Concern: UXO

Media of Concern: Soil

Completed REM/IRA/RA: None

Total MMRP Funding

Prior years (up to FY05):	\$491,000
Current Year (FY06):	\$ 0
Future Requirements (FY07+):	\$ 0
Total:	\$491,000

Duration of MMRP

Year of MMRP Inception: 2002

Year of MMRP RIP/RC: 2008

Year of MMRP Completion Including LTM: 2006

MMRP Contamination Assessment

MMRP Contamination Assessment Overview

The Department of Defense (DoD) has established the MMRP under Defense Environmental Restoration Program (DERP) to address DoD sites with MEC including unexploded ordnance (UXO), discarded military munitions (DMM), and MC.

The United States Army's inventory of Closed, Transferring, and Transferred (CTT) Military ranges and sites, has identified sites eligible for action under MMRP.

The MMRP eligible sites include other than operational ranges where UXO, DMM and MC is known or suspected and the release occurred prior to September 30, 2002. Properties classified as operational ranges are not eligible and, therefore, are excluded from the MMRP program.

The process began with three phases of range inventories. Phase 1 consisted of installations completing an initial data call. USAEC managed the implementation Phases 2 and 3 of the MMRP inventory.

The Phase II inventory dealt with active and inactive (A/I) range considerations. Phase 3 involved the CTT range inventory conducted in 2002. Included were extensive mapping, data collection for upload to the Army Range Inventory Database, conducting of an assessment on explosives safety risk using the Risk Assessment Code (RAC) methodology for CTT ranges or sites with UXO or DMM identified in the inventory, and the determination of which sites on the inventory potentially qualify for the MMRP.

A site investigation was completed in February 2005. A Remedial Investigation and Feasibility Study have been completed. Removal Action completed in FY06.

MMRP Cleanup Exit Strategy

No further action required. The one MMRP site is RC.

2002

Draft CTT Inventory, E2M, July
Final CTT Inventory, E2M, September

2003

Draft CTT Inventory, BRAC Property, Tetra Tech, April
Final CTT Inventory, BRAC Property, Tetra Tech, July

2004

Draft Historical Records Review, E2M, December

2005

Final Historical Records Review/Site Inspection, E2M, February
Draft Project Plans, Firing Range, Bay West, August
Project Plans, Firing Range, Bay West, October
Draft EE/CA, Firing Range, Bay West, December

2006

Final EE/CA Report, Firing Range, Bay West, February
Final RA Work Plan, Bay West, April
Draft Close-Out Report, Bay West, June

INDIANA AAP

Military Munitions Response Program

Site Descriptions

INAAP-001-R-01 FIRING RANGE

SITE DESCRIPTION

The Firing Range is approximately .25 acres, located along the Ohio River floodplain, approximately 700 feet west of the Ohio River. The site is bounded on the west by a wooded hillside and on the east by an access road. The site was used from 1950 – 2001 and consisted of six handgun targets built in front of a hill. Security personnel used the range for training with .45 and .38 caliber revolvers and M16 rifles. Training with white smoke canisters also occurred at the Firing Range. Expended munitions are present at the range. The range is currently undeveloped and being leased to the Indiana Department of Natural Resources.

STATUS

RAC Score: 3 - Moderate

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	200203	200305
SI	200404	200502
RI/FS	200502	200509
RA(C)	200510	200609

RC DATE: 200609

An RI/FS Study was conducted and a Removal Action was completed in FY06.

CLEANUP STRATEGY

This site is Response Complete.

Initiation of MMRP: 2002

Past Phase Completion Milestones

2003

- PA, May

2005

- SI, February

2006

- RI/FS, September
- RA(C), September

Projected ROD/DD Approval Dates: 2006

Projected Construction Completion: 2006

Schedule for Five Year Reviews: none anticipated

Estimated Completion Date of MMRP including LTM: 2006

Prior Years Funds

Total Funding up to FY04: \$491.0 K

Year	Site Information	Expenditures	FY Total
FY05			0

Total Prior Year Funds: \$491K

Current Year Requirements

Year	Site Information	Requirements	FY Total
FY 06	INAAP-001-R-01	\$0K	\$0 K

Total Requirements FY06: \$0 K

Total Future Requirements: \$0 K

Total IR Program Cost (from inception to completion of the IRP) \$491.0 K

A. Status of Community Involvement

To date there has been limited community involvement. The Army continues to keep the local community apprised of upcoming activities and status through public announcements, press releases, and meetings. In addition, INAAP has established an Administrative Record that is maintained at the facility and is available for public review.

B. Determining Interest In Establishing RAB

In January and February 1998, October 2001, October 2003, and again in September 2005 INAAP canvassed its surrounding communities for potential interest in establishing a Restoration Advisory Board (RAB). After all efforts were completed, the Installation Commander determined that there was not enough sustainable community interest to establish a RAB.

1. Efforts Taken To Determine Interest

INAAP conducted the following to assess potential interest in establishing a RAB:

- (1) Advertised in the Louisville Courier Journal and the Charlestown Leader in January/February 1998.
- (2) Similar advertisements were published in FY01 (October 2000), FY04 (October 2003) and again in FY05 (September 2005). The results to this poll for interest were the same as in FY98.

2. Results of Efforts to Determine Interest in a RAB

- (1) No response was received from the community.

3. Conclusions Concerning Establishing a RAB

Based on the results of INAAP's efforts to determine interest in forming a RAB, the Installation Commander determined that there was not sufficient diverse interest to establish and sustain a RAB at this time.

4. Follow-up Procedures

INAAP is committed to involving the public in its restoration program and recognizes that interest in restoration activities can change. INAAP has developed an internet website with installation background and status information. An administrative record has also been established where members of the public can access documents pertinent to the investigation and cleanup of the INAAP facility. Remedial Action to be completed in 2007 with no further efforts anticipated.

C. Interest in the Technical Assistance for Public Participation (TAPP) Program

It is anticipated to not have public interest in the TAPP Program.

APPENDIX A

EXCESS PROPERTY

SITES REGULATED UNDER:

AR 385-64

Please note that the sites in this Appendix are under Army Regulation 385-64 (Chapter 8 - Real Property Contaminated with Ammunition and Explosives) and are not eligible for funding under IRP, MMRP, or CC programs.

The Department of Defense is drafting policies and procedures to minimize explosives safety risks and to ensure protection of human health and the environment in present and former DOD ranges. With respect to active and inactive ranges, the DOD Explosive Safety Board is staffing a directive that will address unexploded ordnance explosive safety issues. The Department is also engaged in rulemaking under the Administrative Procedures Act to address response activities on closed, transferred, and transferring ranges. Accordingly, Army policies and procedures in these areas will be provided when the DOD directive and DOD Range Rule are finalized. Until then, practitioners should consult technical and legal personnel for guidance.

INAAP EXCESS PROPERTIES

PARCEL D3

Parcel Size: 132 acres

Associated Sites: Parcel D3 Area, INAAP-29

Transfer Date or Expected Transfer Date: 200609

Current Land Use: Industrial

Future Land Use: Industrial

Leases/Permits/Licenses: RRDA/RCRA post closure permit/None

Transfer Strategy: Transferred in FY06

Recipient: RRDA

Other Issues Affecting Transfer: None known to date

PARCEL D3 AREA

SITE DESCRIPTION

These facilities are located in the middle section of the installation. Facilities stored containerized propellants and explosives. The ship houses are wood framed with transite siding and wood floors. These facilities were visually inspected (D/I) for explosives during 2004 and propellants were observed between and beneath the floorboards. This site consists of 9 buildings, representing of 29,382 square feet.

Top layer of flooring removed and propellants above and beneath floorboards disposed (Modified TD).

CLEANUP STRATEGY

Cleanup was completed in FY06.

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

<u>Phases</u>	<u>Start</u>	<u>End</u>
ESS	200201	200301
Modified TD .	200601	200609

RC DATE: 200609

INAAP EXCESS PROPERTIES PARCEL F

Parcel Size: 1,344 acres

Associated Sites: TD, FR1, D/I, INAAP-06, 17, 18, 25, 26, 27, 28, 30, 34, 46, 47, 50, 56, 59, 60, 69-5, 77, 79, 89

Transfer Date or Expected Transfer Date: 2008

Current Land Use: Native woodland

Future Land Use: Recreational

Leases/Permits/Licenses: Currently leased to IDNR/RCRA post closure permit/None

Transfer Strategy: To be transferred by 2008

Recipient: State of Indiana

Other Issues Affecting Transfer: None known to date

POWDER PREP

SITE DESCRIPTION

These facilities are located north of the Igloo Area in the central portion of the installation. Facilities were used to dry black powder and repackage Class 1.1 explosives. This site consists of 10 facilities which require burning or thermal decontamination (TD). TD represents 8,960 square feet. Remaining slabs and foundations will require explosive inspection/testing and cautious removal (if necessary) (FR1).

CLEANUP STRATEGY

TD: Thermal decontamination of 10 above ground structures in the winter of 2006/2007. Burning timeframe is limited due to environmental restrictions.

FR1: Soil surrounding foundations will require explosive testing and cautious removal (if necessary).

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN
Propellants and Explosives

MEDIA OF CONCERN: Buildings, Soils

Phases	Start	End
ESS	200201	200301
TD	200611	200703
FR1	200704	200809

RC DATE: 200809

INAAP EXCESS PROPERTIES

PARCEL G1/G2

Parcel Size: 301 acres/344 acres

Associated Sites: FR1, D/I

G1: INAAP-13, 61, 84, 44, 58, 87, 37, 83, 84, 85, 80, 40, 43, 78, 45

G2: INAAP-52, 82, 69-1, 75

Transfer Date or Expected Transfer Date: 200609

Current Land Use: Industrial

Future Land Use: Industrial

Leases/Permits/Licenses: RRDA/RCRA post closure permit/none

Transfer Strategy: To be transferred in FY06

Recipient: RRDA

Other Issues Affecting Transfer: None known to date

PROP CHARGE AREA

SITE DESCRIPTION

These facilities are located in the southwestern portion of the installation. Facilities used to load and assemble propellant charges were burned during FY04. Remaining slabs and the foundation will require inspection/testing and cautious removal (if necessary) (FR1). FR1 represents 336,949 square feet. Additionally, changes houses used for personnel working in this area will require explosive testing. Service magazines used to store explosives will require visual inspection for suspected propellants (D/I). D/I represent 38,928 square feet.

CLEANUP STRATEGY

Foundation testing and explosive inspection completed in FY06.

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

Phases	Start	End
ESS	200201	200301
D/I	200601	200604
FR1	200601	200604

RC DATE: 200604

INAAP EXCESS PROPERTIES PARCEL H

Parcel Size: 1,975 acres

Associated Sites: INAAP-01, 03, 04, 05, 10, 16, 20, 21, 22, 54, 63, 65, 36, 83, 07, 19, 09, 32, 35, 81, 72, 53, 70, 23, , 62, 08, 48-1, 48-2

Transfer Date or Expected Transfer Date: 2014+

Current Land Use: Industrial

Future Land Use: Industrial

Leases/Permits/Licenses: RRDA/RCRA post closure permit/None

Transfer Strategy: To be transferred by 2014+

Recipient: River Ridge Development Authority (RRDA)

Other Issues Affecting Transfer: None known to date

SEIVE HOUSE

SITE DESCRIPTION

These facilities are located in the southwest portion of the P&E Area in the northwest portion of the installation. Facilities were used to remove undesirable materials from single perforated propellants. This site consists of 28 facilities, which require burning or thermal decontamination (TD). TD represents 14,917 square feet. Remaining slabs and the foundation will require explosive inspection/testing and cautious removal (if necessary) (FR1). This site is located in Parcel H.

CLEANUP STRATEGY

TD: Thermal decontamination of 28 above ground structures in the winter of 2006. Burning timeframe is limited due to environmental restrictions.

FR1: Soil surrounding foundations will require explosive testing and cautious removal (if necessary).

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

Phases	Start	End
ESS	200201	200301
TD	200611	200703
FR1	200704	200809

RC DATE: 200809

TRAY DRY HOUSE AREA

SITE DESCRIPTION

These facilities are located in the southwest portion of the P&E Area in the northwest portion of the installation. Facilities were used to dry single perforated propellants. This site consists of 18 facilities, which require burning or thermal decontamination (TD). TD represents 26,605 square feet. Remaining slabs and the foundation will require explosive inspection/testing and cautious removal (if necessary) (FR1). **This site is located in Parcel H.**

CLEANUP STRATEGY

TD: Thermal decontamination of 18 above ground structures in the winter of 2006. Burning timeframe is limited due to environmental restrictions.

FR1: Soil surrounding foundations will require explosive testing and cautious removal (if necessary).

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN:
Propellants and Explosives

MEDIA OF CONCERN: Buildings

Phases	Start	End
ESS	200201	200301
TD	200611	200703
FR1	200704	200809

RC DATE: 200809

DRYER AREA

SITE DESCRIPTION

These facilities are located in the eastern portion of the P&E Area in the northern portion of the installation. Facilities were used to dry multi-perforated propellants. This site consists of 33 facilities, which require burning or thermal decontamination (TD). TD represents 23,356 square feet. Remaining slabs and the foundation will require explosive inspection/testing and cautious removal (if necessary) (FR1). **This site is located in Parcel H.**

CLEANUP STRATEGY

TD: Thermal decontamination of 33 above ground structures in the winter of 2006. Burning timeframe is limited due to environmental restrictions.

FR1: Soil surrounding foundations will require explosive testing and cautious removal (if necessary).

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

<u>Phases</u>	<u>Start</u>	<u>End</u>
ESS	200201	200301
TD	200611	200703
FR1	200704	200809

RC DATE: 200809

BLENDING TOWERS

SITE DESCRIPTION

These facilities are located in the eastern portion of the P&E Area in the northern portion of the installation. Facilities were used to blend propellants into uniform lots. This site consists of 8 facilities, which require burning or thermal decontamination (TD). TD represents 98,930 square feet. Remaining slabs and the foundation will require explosive inspection/testing and cautious removal (if necessary) (FR1). **This site is located in Parcel H.**

CLEANUP STRATEGY

TD: Thermal decontamination of 8 above ground structures in the winter of 2006. Burning timeframe is limited due to environmental restrictions.

FR1: Soil surrounding foundations will require explosive testing and cautious removal (if necessary).

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

Phases	Start	End
ESS	200201	200301
TD	200611	200703
FR1	200704	200809

RC DATE: 200809

SOLVENT RECOVERY

SITE DESCRIPTION

These facilities are located in the eastern portion of the P&E Area in the northern portion of the installation. Facilities were used to remove ether and alcohol vapors from the propellants. This site consists of 94 facilities, which require visual inspection for suspected propellants (D/I). D/I represents 109,792 square feet. **This site is located in Parcel H.**

CLEANUP STRATEGY

D/I: Suspected propellants may remain along concrete floor; therefore, visual inspection is required.

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

<u>Phases</u>	<u>Start</u>	<u>End</u>
ESS	200201	200301
D/I.....	200609	200809

RC DATE: 200809

AIR TEST HOUSE AREA

SITE DESCRIPTION

These facilities are located in the eastern portion of the P&E Area in the northern portion of the installation. Facilities were used to perform leak tests on loaded propellant containers. This site consists of 3 facilities, which require burning or thermal decontamination (TD). TD represents 9,450 square feet. Remaining slabs and the foundation will require explosive inspection/testing and cautious removal (if necessary) (FR1). **This site is located in Parcel H.**

CLEANUP STRATEGY

TD: Thermal decontamination of 3 above ground structures in the winter of 2006. Burning timeframe is limited due to environmental restrictions.

FR1: Soil surrounding foundations will require explosive testing and cautious removal (if necessary).

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

<u>Phases</u>	<u>Start</u>	<u>End</u>
ESS	200201	200301
TD	200611	200703
FR1	200704	200809

RC DATE: 200809

MATERIAL STORAGE AREA

SITE DESCRIPTION

These facilities are located throughout the P&E Area in the northern portion of the installation. Facilities were used to store explosive material handling equipment. This site consists of 46 facilities, which require visual inspection for suspected propellants (D/I). D/I represents 100,401 square feet. **This site is located in Parcel H.**

CLEANUP STRATEGY

D/I: Suspected propellants may remain along concrete floor; therefore, visual inspection is required.

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

Phases	Start	End
ESS	200201	200301
D/I.....	200609	200809

RC DATE: 200809

CHANGE HOUSES

SITE DESCRIPTION

These facilities are located throughout the P&E Area in the northern portion of the installation. Facilities were used for personnel working in this will require explosive testing of the drains. This site consists of 30 facilities, which require inspection/testing for suspected propellants (D/I). D/I represent 85,469 square feet. **This site is located in Parcel H.**

CLEANUP STRATEGY

D/I Floor drains will require explosive testing.

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

Phases	Start	End
ESS	200201	200301
D/I.....	200609	200809

RC DATE: 200809

VARIOUS IN PARCEL H

SITE DESCRIPTION

These facilities are located in the eastern portion of the P&E Area in the northern portion of the installation. Facilities were used for repackaging of explosives. This site consists of 7 facilities, which require burning or thermal decontamination (TD). TD represents 13,699 square feet. Remaining slabs and the foundation will require explosive inspection/testing and cautious removal (if necessary) (FR1). Additionally, there are 6 facilities used for inspection of explosives that will require visual inspection for suspect explosives (D/I). DI represents 10,608 square feet. **This site is located in Parcel H.**

CLEANUP STRATEGY

TD: Thermal decontamination of 7 above ground structures in the winter of 2006. Burning timeframe is limited due to environmental restrictions.

FR1: Soil surrounding foundations will require explosive testing and cautious removal (if necessary).

D/I: Suspected propellants may remain along concrete floor; therefore, visual inspection is required.

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

<u>Phases</u>	<u>Start</u>	<u>End</u>
ESS	200201	200301
D/I.....	200601	200703
TD	200611	200703
FR1	200704	200809

RC DATE: 200809

SHIP HOUSES/BOX HOUSES

SITE DESCRIPTION

These facilities are located in the middle section of the installation. Facilities stored containerized propellants and explosives. The shiphouses are wood framed with transite siding and wood floors. This site consists of 119 buildings, representing of 362,703 square feet.

Suspected propellants may remain beneath floorboards; therefore, disassembling and visual inspection is required (D/I).

This site is located in Parcels F and H.

CLEANUP STRATEGY

D/I: Suspected propellants may remain beneath floorboards; therefore, disassembling and visual inspection is required.

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

<u>Phases</u>	<u>Start</u>	<u>End</u>
ESS	200201	200301
D/I.....	200609	200809

RC DATE: 200809

INAAP EXCESS PROPERTIES

PARCEL I

Parcel Size: 91 acres

Associated Sites: FR1, TD, INAAP-14, 15, 74, 83

Transfer Date or Expected Transfer Date: 2008

Current Land Use: Industrial

Future Land Use: Recreational

Leases/Permits/Licenses: IDNR/RCRA post closure permit/none

Transfer Strategy: To be transferred in FY08

Recipient: IDNR

Other Issues Affecting Transfer: Explosive Decontamination required prior to transfer

BLACK POWDER

SITE DESCRIPTION

Located on the northeast portion of the installation, this site consists of a black powder manufacturing facility. The manufacturing facility consisted of twenty-eight buildings, of which eight will require burning or thermal decontamination (TD). TD represents 41,835 square feet of explosive facilities. The foundations of the buildings identified with this restriction were previous propellant production facilities. Slabs and the foundation of this facility still remain and will require inspection/testing and cautious removal (if necessary) (FR1).

CLEANUP STRATEGY

TD: Thermal destruction of eight above ground structures in winter of 2006. Burning timeframe is limited due to environmental restrictions.

FR1: Soil surrounding foundations will require explosive testing and cautious removal (if necessary).

STATUS

REGULATORY DRIVER: AR 385-64

CONTAMINANTS OF CONCERN: Propellants and Explosives

MEDIA OF CONCERN: Buildings

Phases	Start	End
ESS	200201	200301
TD	200611	200703
FR1	200704	200809

RC DATE: 200809